

English translation of the amended sheets of
International Preliminary Examination Report

CLAIMS

1. Method for attaching a protein to a conductive
5 support by means of a pyrrole polymer, comprising the
following steps:

- coupling of the protein to be attached with a
pyrrole monomer so as to obtain a first solution of a
10 protein-pyrrole coupling compound,

- preparation of a second solution of the
pyrrole monomer not coupled to the protein,

15 - mixing of said first solution with said
second solution so as to obtain an electro-
polymerization solution,

- electropolymerization of the pyrrole and of
20 the protein coupled to the pyrrole on at least one
given area of the conductive support using said
electropolymerization solution, said electro-
polymerization being carried out with a charge of less
than $50 \mu\text{C}/\text{mm}^2$ for a synthesis time of less than
25 1000 ms, so as to obtain a film of copolymer having a
thickness of less than or equal to 10 nm.

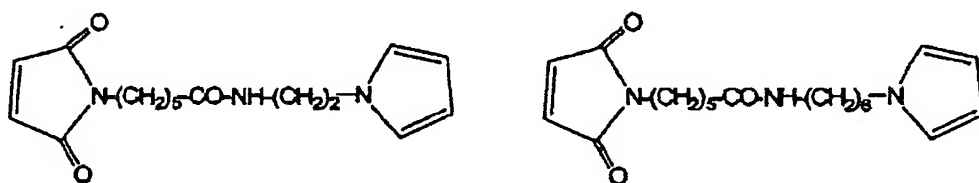
2. Method according to Claim 1, in which the at
least one conductive area on which the electro-
30 polymerization is carried out is at least one block of
a biosensor support.

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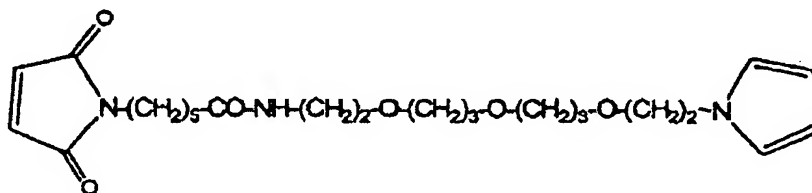
3. Method according to Claim 1, in which the coupling of the protein to be attached with pyrrole is carried out by means of activation of the pyrrole followed by coupling of the activated pyrrole to the protein to be attached.

4. Method according to Claim 3, in which the activation of the pyrrole is carried out by means of N-hydroxysulphosuccinimide or of maleimide.

5. Method according to Claim 3, in which the protein-pyrrole coupling compound is chosen from the following compounds:



and



6. Method according to Claim 1, in which two proteins are attached to the pyrrole polymer successively and on two different given areas of the conductive support.

7. Method according to Claim 1, in which the protein is chosen from the group consisting of an enzyme, an antibody, an antigen, a hormone and a receptor.

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8. Use of a method according to any one of the preceding Claims 1 to 7, for producing a monosensor or a multisensor.

5 9. Use of a method according to any one of the preceding Claims 1 to 7, for producing a biochip.